

Abstract of the Disclosure

REINFORCED SILICA/ELASTOMER COMPOSITE

5           This invention is based upon the discovery that elongated silica has superior characteristics for reinforcing rubbery elastomers as compared to conventional silica. More specifically, elongated silica provides a higher level of reinforcement for elastomers at the same level of loading. Accordingly, elongated silica can be employed to attain an equivalent level of reinforcement at a lower level of loading. This results in  
10 lower weight compositions and potential cost savings. Rubber compounds that are reinforced with elongated silica offer significant advantages in tires including reduced rolling resistance, increased tread life, and, of course, reduced weight. The subject invention more specifically relates to a silica reinforced rubber composition which is comprised of (1) a rubbery polymer and (2) an elongated silica, wherein the elongated  
15 silica has a width that is within the range of about 5 nm to about 40 nm and wherein the elongated silica has a length of about 40 nm to about 300 nm. The present invention also discloses a process for preparing a silica reinforced rubber composition which comprises (1) adding an elongated silica to a latex of a rubbery polymer, and (2) recovering the silica reinforced rubber composition from the latex.